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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/749,768 | 12/30/2003 | Nelson M. Rivera | D/A2104 XERZ 2 00655 | 1041 |

27885 7590 08/23/2005

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| EXAMINER | |
|---|---|
| LIVEDALEN, BRIAN J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2878 | |

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/749,768 | RIVERA ET AL. | |
| | Examiner | Art Unit | |
| | Brian J. Livedalen | 2878 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/30/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Edgar (5465155).

In regard to claims 1-6, and 18, Edgar discloses (fig. 9) a web inspection method of projecting light from a source (front emulsion side) to be incident on a select portion of a web that is moving in a down-web direction and that extends laterally to define a width in a cross-web direction; capturing reflected light (not shown) from said source that is reflected by said select web portion and deriving a digital image of said reflected light, simultaneously with said step of capturing reflected light, capturing transmitted light (not shown) from said source that is transmitted through said select web portion and deriving a digital image of said transmitted light (abstract); digitally merging said reflected light digital image and said transmitted light digital image to derive merged image data that represent both said reflected light and said transmitted light; and using the reflected image, the transmitted image and said merged data to identify defects in said web (column 4, lines 34-50). Edgar further discloses (fig. 9) a reflective light image capturing camera system and a transmitted light camera system; wherein said web is located between said reflected light image capturing system and said transmitted light

image capturing system. Further light source and said reflected light image capturing system are located on a first side of said web and wherein said transmitted light image capturing system is located on a second side of said web that is opposite said first side so that said web passes between said light source and said transmitted light image capturing system. Edgar further discloses that the reflected light image capturing system and said transmitted light image capturing system are registered with each other in terms of a field of said web imaged respectively thereby so that said reflected light image capturing system and said transmitted light image capturing system simultaneously image said select web portion where said light from said source in incident thereon. Furthermore, the reflected light image capturing system and transmitted light image capturing system are both made up of a plurality of cameras (fig. 3). Edgar further discloses (fig. 9) the said light projected from said source (front light emulsion side) is incident on said web at an angle x degrees relative to a vertical plane, said reflected light image capturing system is located at an angle y relative to said vertical plane, and wherein transmitted light image capturing system is directly aligned with said projected light.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto et al. (6084664).

In regard to claims 1-5, Matsumoto discloses (fig. 35) a web inspection method of projecting light from a source (31) to be incident on a select portion of a web (6) that is moving in a down-web direction and that extends laterally to define a width in a cross-

web direction; capturing reflected light (51) from said source that is reflected by said select web portion and deriving a digital image of said reflected light, simultaneously with said step of capturing reflected light, capturing transmitted light (551) from said source that is transmitted through said select web portion and deriving a digital image of said transmitted light (column 4, lines 52-56); digitally merging said reflected light digital image and said transmitted light digital image to derive merged image data that represent both said reflected light and said transmitted light; and using the reflected image, the transmitted image, and said merged data to identify defects in said web (column 26, lines 7-20). Matsumoto further discloses (fig. 35) a reflective light image capturing camera system (55) and a transmitted light camera system (551); wherein said web is located between said reflected light image capturing system and said transmitted light image capturing system. Further light source (31) and said reflected light image capturing system (51) are located on a first side of said web and wherein said transmitted light image capturing system (551) is located on a second side of said web that is opposite said first side so that said web passes between said light source and said transmitted light image capturing system. Matsumoto further discloses that the reflected light image capturing system and said transmitted light image capturing system are registered with each other in terms of a field of said web imaged respectively thereby so that said reflected light image capturing system and said transmitted light image capturing system simultaneously image said select web portion where said light from said source in incident thereon.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Adler et al. (6437312).

In regard to claims 7 and 8, Edgar discloses (fig. 9) a web inspection system that images both the reflected and transmitted light as set forth above. Edgar is silent about the imaging fields of the cameras overlapping as well as the nature of the light source. However, Adler discloses (fig. 3) an inspection system in which the fields of the cameras (352, 354, 356) are overlapping. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the overlapping of Adler to the inspection system of Edgar in order to continuously scan the web. Adler further discloses (fig. 3) a fiber optic light source (column 7, lines 16-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the fiber optic light source of Adler to the inspection system of Edgar to produce a light source that does not radiate heat.

In regard to claim 9, Edgar discloses (fig. 9) a web inspection system that images both the reflected and transmitted light as set forth above. Edgar is silent about the nature of the cameras. However Adler discloses (fig. 1) a line-scan CCD camera (30) that scans the surface of the web (column 7, lines 47-55 and column 8, lines 53-60). It

would have been obvious to one of ordinary skill in the art at the time the invention was made to include the CCD camera of Adler to the inspection system of Edgar to inexpensively image the web.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Adler et al. (6437312) as applied to claim 9 above, and further in view of Lin (6747697).

In regard to claims 10 and 11, Edgar in view of Adler discloses an inspection system that images reflected and received light using multiple cameras that have overlapping image fields. Edgar in view of Adler remains silent regarding the precision of the scanning. However, Lin discloses scanning a 1 x m pixel row in an inspection system (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the precision of Lin to the inspection system of Edgar in view of Adler to obtain a high resolution image.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Ho (US 6236429).

In regard to claim 12, Edgar discloses (fig. 9) an inspection system as set forth above. Edgar remains silent regarding marking the web at or near all identified defects. However Ho discloses (fig. 6) identifying and without interrupting movement of the web, marking the web at or near all identified defects (73, column 3, lines16-24). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to include the marking of Ho to the inspection system of Edgar to be able to mark the web and allow for correction.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Shofner et al. (5533145).

In regard to claim 13, Edgar discloses (fig. 9) an inspection system as set forth above. Edgar remains silent regarding culling defects from the web. However, Shofner discloses (fig. 3) removing defects (42) from a web in a web inspection system (column 5, lines 43-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the removing of Shofner to the inspection system of Edgar to correct the web and not just the image.

Claims 14-16 and 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Kaus (6157438).

In regard to claims 14-16, Edgar discloses (fig. 9) a web inspection system that images both the reflected and transmitted light as set forth above. Edgar is silent about web supports. However, Kaus discloses (fig. 1) a web inspection system in which the inspected web is an unsupported free-span portion of said web that extends between first and second web supports (2), which are both rollers and move the web in a down-web direction while maintained under a select tension (column 2, lines 5-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made

to include the web supports of Kaus to the inspection system of Edgar in order to suspend the web and displace the web as it is being scanned.

In regard to claims 19 and 20, Edgar discloses a web inspecting apparatus with a light source (front emulsion layer) that outputs a light pattern adapted to be incident on a select free- span, unsupported portion of an associated web; a reflected light image capturing system for imaging the select portion of the associated web based upon light from said source transmitted through the select portion, wherein said reflected light image capturing system is registered with said transmitted light image capturing system so that the reflected light image capturing system and said transmitted light image capturing system are adapted to simultaneously image the select portion of the associated web in terms of reflected and transmitted light, respectively and the llight pattern output by said light source is aimed directly into said transmitted light image capturing system (abstract). Edgar fails to disclose first and second web supports. However, Kaus discloses (fig. 1) first and second web supports (2) for supporting the web. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the web supports of Kaus to the inspection system of Edgar in order to suspend the web.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar (5465155) in view of Kaus (6157438) as applied to claim 16 above, and further in view of Young, JR. et al. (2002/0018201).

In regard to claim 17, Edgar in view of Kaus discloses an inspection system as set forth above. Edgar in view of Klaus remains silent regarding the tension provided by the rollers. However Young, JR. discloses maintaining a tension of one pound for each inch of web width (paragraph 59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the tension of Young JR. to the inspection system of Edgar in view of Kaus in order to suspend the web and maintain a taut web for accurate measuring.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Livedalen whose telephone number is (571) 272-2715. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bjl

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